

No.



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Crites-Moscow Growers, Inc.

WHEREAS, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF Viable BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR SELLING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

PEA

'Moose'

In Testimony Whereof, I have hereunto set my hand
and caused the seal of the Plant Variety
Protection Office to be affixed at the City of
Washington, D.C. this fifteenth day of June, in
the year two thousand and seven.

Attest:

R. M. Johnson

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

V. L. Johnson
Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and Information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME		3. VARIETY NAME	
Crites Moscow Growers, Inc.		CMG-340F		Moose	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)		5. TELEPHONE (Include area code)		FOR OFFICIAL USE ONLY	
212 W. 8th St PO Box 8912 Moscow, Id 83843-1412		208-882-5519		PVPO NUMBER 200500058	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.)		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION	
Corporation		Idaho		May 10, 1933	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers)					
Robert Arthur Crites Moscow Growers, Inc PO Box 8912 Moscow, Id 83843-1412					
11. TELEPHONE (Include area code) 208-882-5519		12. FAX (Include area code) 208-882-6464		13. E-MAIL bob@critesmoscow.com	
14. CROP KIND (Common Name) Garden Pea		16. FAMILY NAME (Botanical) Leguminosae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO Deregulate THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Pisum Sativum		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)				21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety				22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness					
c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety					
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)					
e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership					
f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)					
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)					
23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)					
25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.					
The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.					
Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties					

SIGNATURE OF OWNER

SIGNATURE OF OWNER

NAME (Please print or type)

Robert M Arthur

NAME (Please print or type)

Robert M Arthur

CAPACITY OR TITLE

CAPACITY OR TITLE

Research Director

DATE

1/6/05

(See reverse for instructions and information collection burden statement)

EXHIBIT A REVISED

Moose originated from a hand pollinated cross of Dual x Bonito, the female parent, to Novella x Bonito, the male parent.

1986 Greenhouse cross
1987 F1 Bulk Moscow
1988 F2 Bulk selected Mount Vernon, Washington
1989 F3 Pedigree selected Mount Vernon, Washington in soil with Fusarium Wilt 5
1990 F4 Pedigree selected Mount Vernon, Washington
1990 F5 Greenhouse bulk
1991 F6 Pedigree selected Moscow
1992 F7 Bulk from single row Moscow
1993 F8 Bulk from 8 row plot Moscow
1995 Green Pea Trials Moscow
1996 Green Pea Trials Moscow
1997 Small increase Moses Lake, Washington.
1998 Increase Moses Lake, Washington and trial with Oregon State University Extension Unit
1999 Increase Quincy, Washington and trial with Oregon State University Extension Unit
2000 Increase and trial
2002 Increase
2003 Increase and commercial trials
2004 Increase and commercial trials

F1 No selection

F2 Selected on soil containing the *Fusarium oxysporum* race 6 fungus.
The criteria were to select survivors.

F3 Selected on soil containing the *Fusarium oxysporum* race 5 fungus.
The criteria were to select a survivor similar to Dual.

F4 Selected on soil with Race 6 present. Selected Dual type plant that isn't Segregating.

F5 No selection advance the generation.

F6 Selected a Dual type plant with 9 peas per pod.

F7 Bulk selected looking for uniformity in maturity and vine length.

Moose has been observed to be uniform and stable for 7 generations with variants not found.

EXHIBIT B REVISED

Moose is a freezer that closely resembles Dual. However, Dual matures earlier than Moose in green pea trials. The 1997 Moscow, Idaho trial Moose reached 100 tenderometer within 1555 heat units and Dual was earlier at 1480. The 1998 green pea trial with Oregon State University Extension Unit showed similar results. The heat units recorded were 1764 and 1671 for Moose and Dual, respectively. Dual's pods are borne in doubles and Moose's pods are borne in doubles and triples.

The USDA, ARS at Prosser, Washington used pure culture to screen for wilts 2,5 and 6. Moose was resistant to all three of the wilts. The tests were in 1996 and 1997.

PROSSER RESULTS

	WILT 2	WILT 5	WILT6
DSP	18/18	19/19	17/17
SN 5		0/15	0/15
MINI 93	0/19	18/18	
MOOSE	0/17	8/18	0/6

The readings were based on Positive for symptoms / total number of plants tested.

In pure culture with inoculum provided by Washington State University, Moose was confirmed resistance to wilts 2&5. The wilt 2 tests were in 2001 and wilt 5 tests in 2002.

MOSCOW RESULTS

	WILT 2	WILT 5
MOOSE	0/11	0/10
BOLERO		9/9
SAMISH	10/10	10/10

200500058

EXHIBIT B REVISED

The parents involved in the cross of Moose are all resistant to Fusarium wilt race1, common wilt. Moose possess the gene responsible for resistance. Confirmation for resistance was shown in 1996 when tested at the USDA Fusarium wilt race 1 screening nursery at Washington State University.

4

DV16
REPRODUCE LOCALLY. Include form number and date on all reproductions.

Form Approved OMB NO 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD). USDA is an equal opportunity provider and employer.

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Pea (*Pisum sativum* L.)

NAME OF APPLICANT (S) Crites Moscow Growers, Inc.	TEMPORARY OR EXPERIMENTAL DESIGNATION CMG-340F	VARIETY NAME Moose
ADDRESS (Street and No. or RD No., City, State, Zip Code and Country) 212 W. 8th St. PO Box 8912 Moscow, Id 83843-1412	PPVPO NUMBER 200500058	

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g., **0 9 9** or **0 9**) when the number is either 99 or less or 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used: _____ Please answer all questions for your variety; lack of response may delay progress of your application.

1. TYPE:

1 = Garden 2 = Field 3 = Edible-podded 4 = Other (Specify) _____

2. MATURITY:

15 Node Number of First Bloom: **0 6 8** No. of Days Processing **1 5 7 5** Heat Units

 No. of Days Earlier Than **4** } 1 = Alaska 2 = Thomas Laxton WR 3 = Little Marvel
Days Same As **3** } 4 = Wando 5 = Alderman WR 6 = Australian Winter
1 3 No. of Days Later Than **7** = Other (Specify) _____

3. PLANT HEIGHT:

0 8 4 cm High
2 8 cm Shorter Than Name of Check Cultivar **Thomas Laxton WR**

4 6 cm Same As Same as Check Cultivar _____
cm Taller Than Name of Check Cultivar **Little Marvel**

4. VINE:

1 Habit: 1 = Determinate 2 = Indeterminate 3 = Stockiness 1 = Slim (Alaska)
2 = Medium (Thomas Laxton WR)
3 = Heavy (Alderman)
2 Branching: 1 = None (Alaska) 2 = 1-2 Branches (Little Marvel) 3 = More than 2 Branches (Dwarf Gray Sugar)
2 Internodes: 1 = Straight 2 = Zig Zag **1 9** Number of Nodes

5

5. LEAFLETS:

- 2 Color: 1 = Light Green (Alaska WR) 2 = Medium Green (Thomas Laxton WR) 3 = Dark Green (Alderman)
4 = Other (Specify) _____ 5 = Blue Green 6 = Yellow Green 0 = Not Applicable
- 3 Wax 1 = None 2 = Light 3 = Medium 1 1 = Not Marbled 2 = Marbled (Alaska)
4 = Heavy 0 = Not Applicable 0 = Not Applicable
- 3 Number of Leaflet Pairs: 1 = Not Paired 2 = One 3 = Two 4 = Three or More 0 = Not Applicable
- 3 Leaflet Type: 1 = Leafless 2 = Semi 3 = Normal

6. STIPULES:

- 2 1 = Lacking 2 = Present 1 1 = Not Clasping 2 = Clasping
- 2 1 = Not Marbled 2 = Marbled 3 Size (Compared with Leaflets): 1 = Smaller 2 = Same
3 = Larger 0 = Not Applicable
- 2 Color (Compared with Leaflets): 1 = Lighter 2 = Same 3 = Darker 0 = Not Applicable
- 2 Color: 1 = Light Green 2 = Medium Green 3 = Dark Green 4 = Blue Green 5 = Yellow Green 0 = Not Applicable
- Color Chart Value: 137-B Select the Color Chart Used to Determine the Values:
 Royal Horticulture Society Colour Chart
 Munsell Color Chart
 Other
- 2 Sipule Size: 1 = Small 2 = Medium 3 = Large

Please Provide Comparative Varieties (Check Varieties) and Stipule Color

	Variety (1)	Variety (2)	Variety (3)
Variety Name:	<u>Little Marvel</u>	<u>Wrinkled Alaska</u>	<u>Alderman</u>
Stipule Size:	<u>Medium</u>	<u>Small</u>	<u>Large</u>
Color Chart Value:	<u>137-A</u>	<u>137-C</u>	<u>137-C</u>

7. FLOWER COLOR:

- 2 Venation 1 Standard 1 Wing 2 Keel 1 = White
2 = Greenish
3 = Lavender
4 = Purple
5 = Red
6 = Other (Specify) _____

8. PODS:

- 2 Shape: 1 = Straight 2 = Slightly Curved 3 = Curved
- 1 End: 1 = Pointed(Alderman) 2 = Blunt (Alaska)
- 2 Color: 1 = Light Green (Alaska WR) 2 = Medium Green 3 = Dark Green (Alderman)
4 = Other (Specify) _____ 5 = Blue 6 = Purple 7 = Yellow
- 2 Surface: 1 = Smooth 2 = Rough 1 Surface: 1 = Shiny 2 = Dull
- 5 Borne: 1 = Single 2 = Double 3 = Single and Double 4 = Single, Double & Triple 5 = Double & Triple
6 = Triple 7 = Other (Specify) _____ 8 = Quad, Single, Double, Triple 9 = Quad
- 1 cm Length 0 mm Width (Between Sutures) 1 2 0 9 No. Seeds Per Pod

9. SEEDS: (95-100 Tenderometer)

- 2 Color: 1 = Light Green 2 = Green 3 = Dark Green 4 = Other (Specify) _____
5 = Yellow 6 = Brown 7 = Yellow Green

1	2	3	4	5	6	7	8	Average				
Seive: %	<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> 1	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 3	<input type="checkbox"/> 0	<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/> 7	<input type="checkbox"/> 5

- 1 Shape: 1 = Flattened 2 = Angular 3 = Oval 4 = Rounded

Dry Seeds

9. SEEDS: (95-100 Tometer) (continued)

<input type="checkbox"/> 3	Surface:	1 = Smooth	2 = Dimpled	<input type="checkbox"/> 2	Surface	1 = Shiny	2 = Dull
<input type="checkbox"/> 1	Color Pattern:	1 = Monocolor	2 = Mottled	3 = Striped	4 = Dotted		
<input type="checkbox"/> 4	Primary Color	1 = Creamy White	2 = Cream & Green	3 = Light Green	4 = Medium Green		
<input type="checkbox"/> 1	Secondary Color:	5 = Dark Green	6 = Blue Green	7 = Yellow	8 = Brown		
		9 = Red	10 = Gray	11 = Black	12 = Salmon		
		13 = Purple	14 = Tan	15 = White	16 = Pink		
		17 = Yellow Green					
<input type="checkbox"/> 2	Hilum Floor Color:	1 = White	2 = Tan	3 = Black			
<input type="checkbox"/> 1	Cotyledon Color	1 = Green	2 = Yellow	3 = Orange	4 = Cream		
<input type="checkbox"/> 1	Grams per 100 Seeds	7					

10. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Moderately Resistant, 4 = Moderately Susceptible, 5 = Tolerant)

<input type="checkbox"/> 2	Fusarium Wilt – Race 1	<input type="checkbox"/> 2	Fusarium Wilt (Near Wilt) – Race 2
<input type="checkbox"/> 0	Ascochyta Blight	<input type="checkbox"/> 0	Common Mosaic
<input type="checkbox"/> 0	Bacterial Blight	<input type="checkbox"/> 1	Pea Enation Mosaic Virus
<input type="checkbox"/> 0	Downy Mildew	<input type="checkbox"/> 0	Seaborne Mosaic Virus
<input type="checkbox"/> 1	Powdery Mildew	<input type="checkbox"/> 0	Yellow Bean Mosaic Virus
<input type="checkbox"/> 2	Other (Specify) Fusarium-Race5	<input type="checkbox"/> 2	Leaf Roll Virus
<input type="checkbox"/> 2	Other (Specify) Fusarium-Race6	<input type="checkbox"/>	Other (Specify) _____

11. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant, 3 = Moderately Resistant, 4 = Moderately Susceptible, 5 = Tolerant)

<input type="checkbox"/> 1	Aphids	<input type="checkbox"/>	Other (Specify) _____
----------------------------	--------	--------------------------	-----------------------

12. Additional information on any item above, or general comments that may aid in identification:

EXHIBIT D

The photo of Moose and Dual demonstrates the difference between them. Moose with triple pods contrasts Dual with double pods. Moose isn't drying as rapidly as Dual which indicates a difference in maturity.

Provided in this exhibit are 3 years of root rot data from Dr. John Kraft of the USDA. He conducted trials in soils near Milton- Freewater, and Athena, Oregon. These trials indicate that Moose has a high degree of resistance to the root rot complex occurring in that area. Seed yields and the disease index reading, demonstrated the resistance when compared to other varieties.



Exhibit D

200500058

2000

Root Rot Trials

**Dr. John Kraft
Research Plant Pathologist
USDA-ARS
Prosser, Washington**

200500058

2000 Root Rot Entries

13

	Variety	Company	Treatment
1	CMG - 324 F	Crites-Moscow	Captan/Apron
2	CMG - 330 F	Crites-Moscow	Captan/Apron
3	PLS - 4743 X *	Pure Line Seeds	Captan Allegiance
4	Venus	Smith Frozen Foods	Captan/Apron
5	FR 643 - 11 *	Brotherton Seed Company	Captan/Apron
6	FR 665	Brotherton Seed Company	Captan/Apron
7	PLS - 526 *	Pure Line Seeds	Captan Allegiance
8	DS - 89040	Danisco Seed A/S	Wanil
9	DS - 89043	Danisco Seed A/S	Wanil
10	DS - 89083	Danisco Seed A/S	Wanil
11	Bolero	Asgrow	Apron FL/Captan 400
12	97 - 2245	John Kraft	Apron/Methoxychlor
13	97 - 2065	John Kraft	Apron/Methoxychlor
14	97 - 2077	John Kraft	Apron/Methoxychlor
15	97 - 2093	John Kraft	Apron/Methoxychlor
16	Samish	Crites-Moscow	Captan/Apron
17	PLS - 12	Pure Line Seeds	Captan/Allegiance
18	FR - 678 *	Brotherton Seed Company	Captan/Apron
19	CMG - 325 - AF*	Crites-Moscow	Captan/Apron
20	CMG - 340 - F	Crites-Moscow	Captan/Apron
21	FR - 696 *	Brotherton Seed Company	Captan/Apron
22	PLS - 67-2	Pure Line Seeds	Captan/Allegiance
23	PLS - 93	Pure Line Seeds	Captan
24	FR - 688 *	Brotherton Seed Company	Captan/Apron
25	FR - 740 *	Brotherton Seed Company	Captan/Apron
26	FR - 711 *	Brotherton Seed Company	Captan/Apron
27	PLS - 224 *	Pure Line Seeds	Captan/Allegiance
28	PLS - 189 *	Pure Line Seeds	Captan/Allegiance
29	Genie	Rogers Seed Company	Captan/Apron
30	FR - 720 *	Brotherton Seed Company	Captan/Apron
31	0419 *	Asgrow	Apron

* Afila

Seeded 3/29/2000

Soil Temperature 54° F

10

200500058

2000 Root Rot Stand Count

	Variety	Company	Stand Count	
1	CMG - 324 F	Crites-Moscow	38.5	DEFGH
2	CMG - 330 F	Crites-Moscow	47.8	ABCD
3	PLS - 4743 X *	Pure Line Seeds	40.8	CDEFGH
4	Venus	Smith Frozen Foods	39.3	DEFGH
5	FR 643 - 11 *	Brotherton Seed Company	35.0	FGH
6	FR 665	Brotherton Seed Company	54.7	A
7	PLS - 526 *	Pure Line Seeds	31.7	H
8	DS - 89040	Danisco Seed A/S	39.7	CDEFGH
9	DS - 89043	Danisco Seed A/S	38.0	DEFGH
10	DS - 89083	Danisco Seed A/S	44.7	BCDEF
11	Bolero	Asgrow	49.3	ABC
12	97 - 2245	John Kraft	36.5	EFGH
13	97 - 2065	John Kraft	35.3	EFGH
14	97 - 2077	John Kraft	40.3	CDEFGH
15	97 - 2093	John Kraft	34.3	GH
16	Samish	Crites-Moscow	49.3	ABC
17	PLS - 12	Pure Line Seeds	39.0	DEFGH
18	FR - 678 *	Brotherton Seed Company	42.0	BCDEFG
19	CMG - 325 - AF*	Crites-Moscow	42.3	BCDEFG
20	CMG - 340 - F	Crites-Moscow	42.0	BCDEFG
21	FR - 696 *	Brotherton Seed Company	36.0	EFGH
22	PLS - 67-2	Pure Line Seeds	49.3	ABC
23	PLS - 93	Pure Line Seeds	36.3	EFGH
24	FR - 688 *	Brotherton Seed Company	43.2	BCDEFG
25	FR - 740 *	Brotherton Seed Company	45.0	ABCDE
26	FR - 711 *	Brotherton Seed Company	34.8	FGH
27	PLS - 224 *	Pure Line Seeds	38.3	DEFGH
28	PLS - 189 *	Pure Line Seeds	51.8	AB
29	Genie	Rogers Seed Company	38.2	DEFGH
30	FR - 720 *	Brotherton Seed Company	37.2	EFGH
31	0419 *	Asgrow	34.2	GH

* Afila

200500058

2000 Root Rot Disease Index

	Variety	Company	Disease Index
1	CMG - 324 F	Crites-Moscow	4.0
2	CMG - 330 F	Crites-Moscow	4.8
3	PLS - 4743 X *	Pure Line Seeds	4.2
4	Venus	Smith Frozen Foods	4.4
5	FR 643 - 11 *	Brotherton Seed Company	4.3
6	FR 665	Brotherton Seed Company	4.4
7	PLS - 526 *	Pure Line Seeds	3.6
8	DS - 89040	Danisco Seed A/S	3.8
9	DS - 89043	Danisco Seed A/S	3.3
10	DS - 89083	Danisco Seed A/S	3.9
11	Bolero	Asgrow	3.7
12	97 - 2245	John Kraft	2.7
13	97 - 2065	John Kraft	1.9
14	97 - 2077	John Kraft	3.8
15	97 - 2093	John Kraft	2.5
16	Samish	Crites-Moscow	3.9
17	PLS - 12	Pure Line Seeds	3.3
18	FR - 678 *	Brotherton Seed Company	3.3
19	CMG - 325 - AF*	Crites-Moscow	3.6
20	CMG - 340 - F	Crites-Moscow	2.9
21	FR - 696 *	Brotherton Seed Company	4.2
22	PLS - 67-2	Pure Line Seeds	2.5
23	PLS - 93	Pure Line Seeds	3.3
24	FR - 688 *	Brotherton Seed Company	4.0
25	FR - 740 *	Brotherton Seed Company	4.8
26	FR - 711 *	Brotherton Seed Company	3.8
27	PLS - 224 *	Pure Line Seeds	4.4
28	PLS - 189 *	Pure Line Seeds	3.6
29	Genie	Rogers Seed Company	3.8
30	FR - 720 *	Brotherton Seed Company	3.3
31	0419 *	Asgrow	3.8

* Afila

Disease Index Scale

0 = Healthy

5 = Dead

12

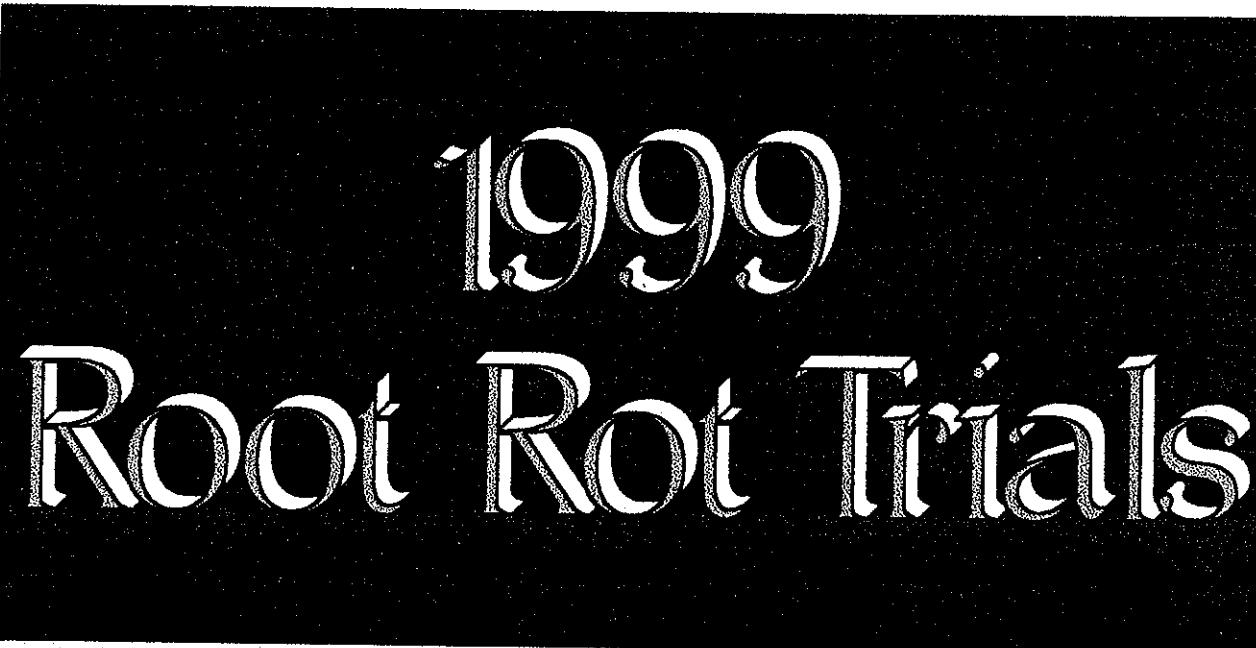
200500058

2000 Root Rot Trials Plots: Aphanomyces Counts

Rep 1	Aph Count	Rep 2	Aph Count	Rep 3	Aph Count	Rep 4	Aph Count	Rep 5	Aph Count	Rep 6	Aph Count
1		20		3	2	8		30		23	
2		14		24		10		4		16	1
3		29	5	19		7		13		1	
4		25		29		28	3	17		9	
5		1		27		16		11	0	2	
6	0	23		25	2	21		16		15	
7		9		11		12		22		3	
8		17		21		30		27		28	3
9		30		28		23		20		7	
10		24	1	7		11		29		20	
11		31		8		22	3	28		19	
12	0	11		4		1		2	1	21	
13		18		10		24		10		13	
14		3		23	7	15		31		25	
15		6		1		2		8		17	3
16		28		5		31		25		18	
17		15		9		27		1		22	
18	0	13		20		9		23		12	
19		21		14		6		24		14	
20		5	3	17		14	0	7		30	
21		10		31		29		9	2	5	
22		27		30		13		18		26	
23		12		18	2	17		26		8	
24	0	7		16		4		14		24	
25		4		13		5		6		11	0
26		16		26		20		19		29	
27		8		12		3		5		6	
28		19		15		18		21		31	
29		26	0	2		26	0	15		10	
30		2		6		19		12		27	
31		22		22		25		3	1	4	

Number of plants out of 15, infected after 2.5 weeks of incubation

13



Dr. John Kraft
Research Plant Pathologist
USDA-ARS
Prosser, Washington

200500058

1999 Root Rot Entries
Johns-Gerking Field
Athena, Oregon

	Variety	Company	Treatment
1	PLS 8925	Pure Line	Apron 25
2	PLS 27	Pure Line	Apron 25
3	CMG 324 F	Crites-Moscow	Captan-Apron
4	PLS 168	Pure Line	Apron 25
5	CMG 330 F	Crites-Moscow	Captan-Apron
6	FR 664	Brotherton	Captan-Apron
7	Samish	Crites-Moscow	Captan-Apron
8	PLS 5P 45	Pure Line	Apron 25
9	Polar	Brotherton	Captan-Apron
10	FR 658	Brotherton	Captan-Apron
11	V-1	Brotherton	Apron-Combi
12	Venus	Smiths	Captan-Apron
13	FR 647	Brotherton	Captan-Apron
14	Bolero	Asgrow	Apron FL/Captan 400
15	Dual	Asgrow	Apron FL/Captan 400
16	99 K07-A6	Kraft	UTC (Untreated Check)
17	PLS 130	Pure Line	Apron 25
18	99 K07-A1	Kraft	Allegiance FL 2.65 FL .375 FL oz/cwt Curzate 50 DF 200 PPM AE Protégé 25 WP 75 PPM AE
19	PLS 105-1	Pure Line	Apron 25
20	99 K07 - A2	Kraft	Allegiance FL 2.65 FL .375 FL oz/cwt Curzate 50 DF 200 PPM AE Protégé 25 WP 75 PPM AE Kodiak Conc. 11 P .125 OZ wt/cwt
21	PLS 152 R	Pure Line	Apron 25
22	99 K07 - A3	Kraft	Allegiance FL 2.65 FL .375 / FL oz/cwt Protégé 25 WP 75 PPM AE Aliette WDG 80 WG 3 OZ wt/cwt
23	Genie	Rogers	Captan-Apron
24	99 K07 A-4	Kraft	Allegiance FL 2.65 FL .375 / FL oz/cwt Protégé 25 WP 75 PPM AE Aliette WDG 80 W 3 OZ wt/cwt Kodiak Conc. 11 P .125 wt/cwt
25	PLS 166	Pure Line	Apron 25
26	99 K07 A5	Kraft	Captan 400 4 FL 2.5 FL oz/cwt Allegiance FL 2.65 FL .375 FL oz/cwt
27	PLS 224 W	Pure Line	Apron 25
28	PLS 155	Pure Line	Apron 25
29	PLS 182	Pure Line	Apron 25
30	PLS 524	Pure Line	Apron 25
31	CMG 340 F	Crites-Moscow	Captan-Apron
32	PLS 192	Pure Line	Apron 25
33	PLS 56-1	Pure Line	Apron 25
34	98-2249	Kraft	Breeder
35	98-2075	Kraft	Breeder

1-20 Seeded 4/8/99

21-35 Seeded 4/12/99

Soil Temperature 50°

15

1999 Root Rot Trials
Johns-Gerking Field, Athena, Oregon
Standard Seed Treatments

Plot #	Variety	Stand Count ¹	Disease Index Tops ²	Dry Seed Yield ³
1	PLS 8925	56 ABCDEFGHI	3.4 EFG	778.50 BCDE
2	PLS 27	55 BCDEFGHIJ	4.2AB	434.38 G
3	CMG 324 F	53 EFGHIJK	3.8ABCDEF	725.27 CDEF
4	PLS 168	61 ABCD	3.3 FGH	776.62 BCDE
5	CMG 330 F	52 FGHIJKLMNOP	4.0ABCD	487.88 FG
6	FR 664	45 LMNO	3.7 BCDEFG	579.32 DEFG
7	Samish	55 BCDEFGHIJ	3.7 BCDEFG	817.58 ABCDE
8	PLS SP 45	57 ABCDEFGH	3.7 BCDEFG	851.78 ABCD
9	Polar	62 ABC	3.9ABCDE	732.63 CDEF
10	FR 658	61 ABCD	3.9ABCDE	741.62 CDEF
11	V-1	62 ABC	4.2AB	551.58 EFG
12	Venus	50 IJKLMN	4.0ABCD	721.07 CDEF
13	FR 647	52 FGHIJKL	3.9ABCDE	785.85 BCDE
14	Bolero	62 ABC	3.6 CDEFG	936.83 ABC
15	Dual	46 LMNO	3.5 DEFG	876.62 ABC
17	PLS 130	57 ABCDEFGH	4.0ABCD	733.87 CDEF
19	PLS 105-1	57 ABCDEFGH	3.7 BCDEFG	745.73 CDEF
21	PLS 152R	45 LMNO	3.7 BCDEFG	829.50 ABCD
23	Genie	52 FGHIJKLMNOP	3.7 BCDEFG	846.33 ABCD
25	PLS 166	47 KLMNO	3.6 CDEFG	751.37 CDEF
27	PLS 224 W	44 NO	4.0ABCD	579.50 DEFG
28	PLS 155	58 ABCDEFGH	4.1ABC	731.78 CDEF
29	PLS 182	52 FGHIJKLMNOP	3.7 BCDEFG	813.75 ABCDE
30	PLS 524	60 ABCDE	3.6 CDEFG	935.78 ABC
31	CMG 340 F	48 JKLMNO	3.3 FGH	1,072.03A
32	PLS 192	60 ABCDE	3.9 ABCDE	696.73 CDEF
33	PLS 56-1	59 ABCDEF	4.3A	695.60 CDEF
34	98-2249	42 O	2.4 I	894.72 ABC
35	98-2075	43 NO	2.9 H	1,026.08 AB

¹ Number of plants counted in a 10' row.

² Tops rated on a 0-5 scale where 0 is no infection and 5 is severely infected or dead plants.

³ Seed yield from a 10' long plot.

200500058

1999 Root Rot Trials
 Johns-Gerking Field
 Athena, Oregon
 Experimental Seed Treatments

Plot #	Variety	Stand Count ¹	Disease Index Tops ²	Dry Seed Yield ³	Root Disease Index ⁴
16	A6	60 ABCDE	3.8 ABCDEF	778.60 BCDE	4.7A
18	A1	61 ABCD	3.7 BCDEFG	745.03 CDEF	4.8A
20	A2	54 DEFGHIJK	3.7 BCDEFG	857.65ABC	4.7A
22	A3	63 A	3.4 EFG	943.37ABC	3.7 B
24	A4	59 ABCDEFGH	3.2 GH	817.50ABCDE	3.4 B
26	A5	59 ABCDEFG	3.8 ABCDEF	744.98 CDEF	4.6A

4* The average of 20 plants dug from each rep and scored on a scale of 1 to 5

1 = no infection

5 = whole root infected.

Plot #	Seed Treatments Used		
16	Untreated Check		
18	Allegiance FL	2.65 FL	.375 FL
	Curzate	50 DF	200 PPM
	Protege	25 WP	75 PPM
20	Allegiance FL	2.65 FL	375 FL OZ/CWT
	Curzate	50 DF	200 PPM AE
	Protege	25 WP	75 PPM AE
	Kodiak Conc.	11 P	.125 OZ WT/CWT
22	Allegiance FL	2.65 FL	375 FL WT/CWT
	Protege	25WP	75 PPM AE
	Aliette WDG	80 WG	3 OZ WT/CWT
24	Allegiance FL	2.65 FL	375 FL OZ/CWT
	Protege	25 WP	75 PPM AE
	Aliette WDG	80 WG	3oz WT/CWT
	Kodiak Conc.	11 P	.125 OZ WT/CWT
26	Captan 400	4 FL	2.5 FL OZ/CWT
	Allegiance FL	2.65 FL	0.375 FL OZ/CWT

1998 Root Rot Trials

*Dr. John Kraft
Research Plant Pathologist
USDA-ARS
Prosser, Washington*

1998 GREEN PEA ROOT ROT TRIALS

Rea-Whiteman Field
Milton-Freewater, Oregon

200500058

Elevation 1000 feet

	Variety	Company	Treatment
1	CMG 322 F	Crites-Moscow	Captan-Apron
2	CMG 332 F	Crites-Moscow	Captan-Apron
3	CMG 324 F	Crites-Moscow	Captan-Apron
4	CMG 330 F	Crites-Moscow	Captan-Apron
5	Venus	Smith	Captan-Apron
6	FR 144	Pure Line	Apron
7	FR 647	Brotherton	Captan-Apron
8	FR 2872	Brotherton	Captan-Apron
9	FR 264-2	Pure Line	Apron
10	Bolero	Asgrow	Apron
11	Dual	Asgrow	Apron
12	Kermit	Danisco	Apron 35 SD/Thiram
13	Dual UTC	Asgrow	Untreated control
14	CMG 340 F	Crites Moscow	Captan-Apron
15	Dual	Asgrow	Captan 2.5 // Apron FL 1.5
16	CMG 339 F	Crites Moscow	Captan-Apron
17	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5
18	CMG 333 F	Crites Moscow	Captan-Apron
19	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.125
20	Emblem	Brotherton	Captan-Apron
21	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.25
22	FR 37117	Pure Line	Apron
23	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.5
24	FR 177	Pure Line	Apron
25	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5// Kodiak 1.0
26	FR 147	Pure Line	Apron
27	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5//Tach 30% 1.5// Kodiak 0.125
28	FR 80 -1	Pure Line	Apron
29	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5//Tach 30% 1.5// Kodiak 0.25
30	FR 52 -1	Pure Line	Apron
31	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5//Tach 30% 1.5// Kodiak 0.5
32	FR 133	Pure Line	Apron
33	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5//Tach 30% 1.5// Kodiak 1.0
34	8500587	Asgrow	Apron
35	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5//Tach 30% 1.5// LS 184
36	8500627	Asgrow	Apron
37			
38	R 97487	Asgrow	Apron
39	Mastin	Danisco	Apron 35 SD//Thiram
40	Genie	Rogers	Captan-Apron
41	96-2068	Kraft	Captan
42	96-2052	Kraft	Captan
43	TYEE	Brotherton	Captan-Apron

Seeded 3-21-98

Soil Temperature at planting 54° F.

19

200500058

1998 Root Rot Plots
Rea-Whiteman Field
Stand Count (all plots)

1	CMG 322 F	Captan-Apron	69.5	*
41	KR96-2068	Captan	66.3	A
26	FR 147	Apron	65.7	AB
29	Dual	Captan 400 2.5 // Apron FL 1.5// Tach 30% 1.5// Kodiak 0.25	65.2	ABC
33	Dual	Captan 400 2.5 // Apron FL 1.5// Tach 30% 1.5// Kodiak 1.0	63.5	ABCD
3	CMG 324 F	Captan-Apron	63.3	ABCDE
15	Dual	Captan 2.5 // Apron FL 1.5	63.3	ABCDE
35	Dual	Captan 400 2.5 // Apron FL 1.5// Tach 30% 1.5// LS 184	62.8	ABCDEF
36	8500627	Apron	62.7	ABCDEF
31	Dual	Captan 400 2.5 // Apron FL 1.5// Tach 30% 1.5// Kodiak 0.5	61.7	ABCDEFG
6	FR 144	Apron	61.7	ABCDEFG
9	FR 264-2	Apron	61.5	ABCDEFGH
39	Mastin	Apron 35 SD/Thiram	60.8	ABCDEFGHI
21	Dual	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.25	60.5	ABCDEFGHI
11	Dual	Apron	60.5	ABCDEFGHI
16	CMG 339 F	Captan-Apron	60.3	ABCDEFGHI
5	Venus	Captan-Apron	60.3	ABCDEFGHI
8	FR 2872	Captan-Apron	60.3	ABCDEFGHI
19	Dual	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.125	60.3	ABCDEFGHI
2	CMG 332 F	Captan-Apron	60.0	ABCDEFGHI
38	R 97487	Apron	59.5	ABCDEFGHI
7	FR 647	Captan-Apron	59.5	ABCDEFGHI
40	Genie	Captan-Apron	59.5	ABCDEFGHI
23	Dual	Captan 400 2.5 // Apron FL 1.5// Kodiak 0.5	59.2	ABCDEFGHI
37			59.0	ABCDEFGHI
25	Dual	Captan 400 2.5 // Apron FL 1.5// Kodiak 1.0	58.8	ABCDEFGHI
17	Dual	Captan 400 2.5 // Apron FL 1.5 /1 Tach 30% 1.5	58.8	ABCDEFGHI
22	FR 37117	Apron	58.5	ABCDEFGHI
28	FR 80-1	Apron	58.0	DEFGHI
30	FR 52-1	Apron	58.0	DEFGHI
27	Dual	Captan 400 2.5 // Apron FL 1.5// Tach 30% 1.5// Kodiak 0.125	58.0	DEFGHI
10	Bolero	Apron	57.8	DEFGHI
43	TYEE	Captan-Apron	57.2	DEFGHI
24	FR 177	Apron	57.2	DEFGHI
42	KR96-2052	Captan	57.2	DEFGHI
32	FR 133	Apron	56.8	DEFGHI
4	CMG 330 F	Captan-Apron	56.8	DEFGHI
13	Dual UTC	Untreated control	56.3	DEFGHI
20	Emblem	Captan-Apron	56.2	EFGHI
18	CMG 333 F	Captan-Apron	55.8	FGHI
34	8500587	Apron	55.5	GHI
12	Kermit	Apron 35 SD/Thiram	54.5	HI
14	CMG 340 F	Captan-Apron	54.0	I

* only two reps counted so not included in the statistical analysis

20

Root Rot Seed Treatments

Rea-Whiteman Field

Plot #	TREATMENT	Stand Count /1	Root DI * /2	Plant Wt (gm) *	Seed Yield gm
11	Apron	60.5 ABCDEFGHI	4.0 AB	331.9 AB	1314.6 DEFGHIJK
13	Untreated control	56.3 DEF GHI	3.5 CD	271.5 AB	1167.0 HIJKL
15	Captan2.5 //ApronFL 1.5	63.3 ABCD E	4.2 A	312.3 AB	1221.0 FGHIJKL
17	Captan 400 2.5 //Apron FL 1.5 /1 Tach 30% 1.5	58.8 BCDEFGHI	3.4 CD	293.1 AB	1359.1 CDEFGHIJK
19	Captan 400 2.5 //Apron FL 1.5// Kodiak 0.125	60.3 ABCDEFGHI	4.0 AB	329.8 AB	1211.1 GH1JKL
21	Captan 400 2.5 //Apron FL 1.5//Kodiak 0.25	60.5 ABCDEFGHI	3.8 ABC	308.6 AB	1461.6 BCDEF GH
23	Captan 400 2.5 //Apron FL 1.5//Kodiak 0.5	59.2 BCDEFGHI	3.8 ABC	344.9 AB	1264.2 EFGHIJKL
25	Captan 400 2.5 // Apron FL 1.5// Kodiak 1.0	58.8 BCDEFGHI	3.7 BC	286.2 AB	1308.4 DEFGHIJK
27	Captan 400 2.5 //Apron FL 1.5/Tach 30% 1.5//Kodiak 0.125	58.0 DEF GHI	3.4 CD	276.1 AB	1397.0 CDEF GHIJ
29	Captan 400 2.5 //Apron FL 1.5//Tach 30% 1.5//Kodiak 0.25	65.2 ABC	3.2 D	261.5 B	1323.7 DEFGHIJK
31	Captan 400 2.5 //Apron FL 1.5//Tach 30% 1.5//Kodiak 0.5	61.7 ABCDEFG	3.4 CD	288.2 AB	1139.9 HIJKL
33	Captan 400 2.5 //Apron FL 1.5//Tach 30% 1.5//Kodiak 1.0	63.5 ABCD	3.3 CD	271.8 AB	1219.5 FGHIJKL
35	Captan 400 2.5 //Apron FL 1.5//Tach 30% 1.5//LS 184	62.8 ABCDEF	3.6 BCD	356.3 A	1231.3 FGHIJKL

Harman Seed Treatments

Rea-Lyon Field

Plot #	TREATMENT	Stand Count /1	Root DI * /2	Plant Wt (gm) *
19	Apron	50.0 A	2.3 A	509.5 A
20	Captan 400 2.5 //Apron FL 1.5//Gleocladium	64.0 B	1.9 B	635.1 A

/1 = Number of plants counted in a 10 foot section of the second row in from the boarder.

/2 = Root Rot Rating 1= Healthy, 5 = Totally infected root

* = Mean of 25 plants dug for each treatment in each rep.

200500058

N

1998 Rea Root Rot Plot: Dry Seed Yield (gm)

Plot	Cultivar	Seed Co.	Seed Treatment	Yield	
28	FR 80-1	Pure Line	Apron	1855.8	A
42	96-2052	Kraft	Captan	1855	A
14	CMG 340 F	Crites Moscow	Captan-Apron	1852.7	A
43	TYEE	Brotherton	Captan-Apron	1776.4	AB
18	CMG 333 F	Crites Moscow	Captan-Apron	1714.5	ABC
30	FR 52-1	Pure Line	Apron	1669.4	ABCD
38	R 97487	Asgrow	Apron	1625.4	ABCDE
9	FR 264-2	Pure Line	Apron	1604.1	ABCDEF
20	Emblem	Brotherton	Captan-Apron	1584	ABCDEFG
41	96-2068	Kraft	Captan	1469	BCDEFGH
21	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Kodiak 0.25	1461.6	BCDEFGH
12	Kermit	Danisco	Apron 35 SD/Thiram	1452.3	BCDEFGHI
7	FR 647	Brotherton	Captan-Apron	1450.9	BCDEFGHI
10	Bolero	Asgrow	Apron	1446.4	BCDEFGHI
22	FR 37117	Pure Line	Apron	1438.5	BCDEFGHI
27	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5 // Kodiak 0.125	1397	CDEFGHIJ
34	8500587	Asgrow	Apron	1373.1	CDEFGHIJ
17	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 / 1 Tach 30% 1.5	1359.1	CDEFGHIJK
39	Mastin	Danisco	Apron 35 SD/Thiram	1344.6	CDEFGHIJK
37				1343	CDEFGHIJK
29	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5 // Kodiak 0.25	1323.7	DEFGHIJK
11	Dual	Asgrow	Apron	1314.6	DEFGHIJK
25	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Kodiak 1.0	1308.4	DEFGHIJK
40	Genie	Rogers	Captan-Apron	1291	DEFGHIJKL
23	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Kodiak 0.5	1264.2	EFGHIJKL
24	FR 177	Pure Line	Apron	1242.9	EFGHIJKL
35	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5 // LS 184	1231.3	FGHijkl
15	Dual	Asgrow	Captan 2.5 // Apron FL 1.5	1221	Fghijkl
33	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5 // Kodiak 1.0	1219.5	Fghijkl
19	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Kodiak 0.125	1211.1	Ghijkl
8	FR 2872	Brotherton	Captan-Apron	1210.6	Ghijkl
36	8500627	Asgrow	Apron	1180.4	Hijkl
13	Dual UTC	Asgrow	Untreated control	1167	Hijkl
3	CMG 324 F	Crites-Moscow	Captan-Apron	1153.7	Hijkl
31	Dual	Asgrow	Captan 400 2.5 // Apron FL 1.5 // Tach 30% 1.5 // Kodiak 0.5	1139.9	Hijkl
4	CMG 330 F	Crites-Moscow	Captan-Apron	1110.4	Hijkl
5	Venus	Smith	Captan-Apron	1107.5	Hijkl
1	CMG 322 F	Crites-Moscow	Captan-Apron	1057.8	IJKL
32	FR 133	Pure Line	Apron	1041.2	JKL
6	FR 144	Pure Line	Apron	1019.7	JKL
26	FR 147	Pure Line	Apron	1010.1	JKL
2	CMG 332 F	Crites-Moscow	Captan-Apron	979	KL
16	CMG 339 F	Crites Moscow	Captan-Apron	910.9	L

22

200500058

1998 Root Rot
Rae/Whiteman Field

Soil Sample Results for Pythium and Fusarium

Rep	Plot #	Pythium CFU/g	Fusarium CFU/g	Aph
1	10	67	533	0
1	20	67	67	0
1	30	133	333	0
1	40	67	667	4
2	10	0	467	0
2	19	0	533	2
2	36	133	400	0
2	43	0	600	2
3	5	0	533	0
3	21	133	533	1
3	22	0	600	0
3	36	67	600	0
4	9	0	467	0
4	20	133	800	0
4	22	67	867	0
4	40	0	467	0
5	3	67	600	0
5	19	0	733	1
5	23	67	267	0
5	36	67	600	1
6	4	0	333	3
6	7	133	733	0
6	33	0	533	3
6	35	0	600	5

Aph = # of infected plants out of 15 that
were inoc. after 2.5 weeks.

23

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Crites Moscow Growers, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER CMG-340F	3. VARIETY NAME Moose
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 212 W.8th St. PO Box 8912 Moscow, Id 83843-1413	5. TELEPHONE (Include area code) 208-882-5519	6. FAX (Include area code) 208-882-6464
7. PVPO NUMBER		2 0 0 5 0 0 0 5 8

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain.

YES NO

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country.

YES NO

10. Is the applicant the original owner?

YES

NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

YES NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

YES NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

24